

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (Currently Amended): A method for diagnosing functional faults of a functional architecture ~~composed of a set of~~ comprising functions for performing a service ~~and~~ associated with ~~electronic components~~ sensors and actuators that produce and consume data, ~~at least one of the data being able to assume a predetermined particular value following development of a functional fault of at least one of the electronic components of the set, the method, given a set of functions that performs a service, wherein input and output data can be associated with sensors or actuators, said method~~ comprising:

i) creating a first list of ~~determining~~ particular values, ~~during which particular values corresponding to functional faults of the sensors and actuators are listed;~~

ii) creating a second list of ~~determining propagation, during which~~ particular values that permit propagation of an information ~~stream~~ relating to said functional faults of said sensors and actuators ~~defects across the functional architecture functions are listed;~~

iii) formulating diagnosis, during which a functional diagnosis of the service based on the first and second lists of particular values as a function of lists obtained from the determining i) and ii) are formed; and

iv) recording the particular values and their propagation on a memory device ~~for a tool provided for validation of the architecture.~~

Claim 13 (Currently Amended): A diagnostic method according to claim 12, wherein, after the diagnosis formulating of said functional diagnostic (iii), said method comprises a step of deducing given the choice of an embodiment manifested by:

~~a hardware architecture composed of calculators, networks, signal lines, and connectors;~~  
~~and mapping of functions onto the hardware architecture;~~  
~~the particular values are listed according to the method, to deduce an operational diagnosis of the resulting an electronic architecture onto which said functions are mapped, said electronic architecture comprising calculators, networks, signal lines, and connectors.~~

Claim 14 (Currently Amended): A diagnostic method according to claim 13 ~~12~~, wherein creating the lists of said particular values is performed ~~the particular values are classified~~ after mapping of the functions onto the ~~hardware~~ electronic architecture.

Claim 15 (Currently Amended): A diagnostic method according to claim 14, wherein the particular values correspond to at least one of the following ~~are classified among at least one of classes of:~~

cut bus;  
corrupted frame;  
short circuit applied to a wire;  
wrong contact applied to a connector of a strand, sensor, actuator or calculator; and  
execution fault applied to a microcontroller.

Claim 16 (Currently Amended): A method according to claim 13 ~~12~~, wherein, given ~~an~~ said operational diagnosis for a the service, the particular values comprise functional particular values associated with sensors, actuators, and the method further comprising a step of listing functions executing the service ~~having been listed~~ for at least one data flow between two functions, or between a sensor and a function, or between a function and an actuator, for

which no functional particular value is defined for the flow, and wherein if an operational particular value is defined, then a new functional particular value is automatically determined for ~~this~~ said at least one data flow.

Claim 17 (Currently Amended): A method according to claim 12, ~~wherein~~ further comprising listing undiagnosed feared incidents ~~are listed~~ to construct an analysis of functional safety of the functional architecture.

Claim 18 (Currently Amended): A method according to claim 12, wherein said functions are mapped onto ~~, given the choice of an embodiment manifested by:~~

a hardware architecture composed of calculators, networks, signal lines, and connectors,

~~and mapping of functions onto the hardware architecture,~~

wherein the particular values and feared incidents are listed ~~according to the method,~~ to deduce an analysis of functional safety of the ~~resulting~~ functional architecture.

Claim 19 (Currently Amended): A diagnostic method according to claim 12, wherein the functional architecture comprises an architecture with which a vehicle can be equipped.

Claim 20 (Currently Amended): A diagnostic method according to claim 12, further comprising ~~analysis of~~ analyzing feasibility and/or susceptibility to failure of functioning of the architecture and ~~analyzing of~~ establishment of an output indicating the feasibility and/or susceptibility to failure.

Claim 21 (Currently Amended): A commercial article provided with a computer-readable memory, a program executable by a computer being recorded in the memory for diagnosis of functional faults of a functional architecture, the program including encoding for:

- i) determining and listing particular values corresponding to functional faults of sensors and actuators;
- ii) determining and listing particular values permitting propagation of information relating to ~~these~~ said faults across the functional architecture;
- iii) forming ~~the~~ a functional diagnosis of the functional architecture based on said particular values ~~service as a function of the lists obtained from the determining (i) and (ii);~~  
and
- iv) recording the particular values and their propagation on a memory ~~for a tool provided for validation of the architecture.~~

Claim 22 (Currently Amended): A data-processing tool programmed ~~for the diagnosis of functional faults of a functional architecture using~~ to perform the method for diagnosing functional faults of a functional architecture according to claim 12.

Claim 23 (Currently Amended): A data-processing tool ~~programmed for the diagnosis of functional faults of a functional architecture by using~~ comprising the commercial article according to claim 21.

Claim 24 (New): A diagnostic method according to claim 12, wherein said particular values that permit propagation of said information relating to said functional faults of said

sensors and actuators include a value associated with the presence of a connection fault between said sensors and actuators.

Claim 25 (New): A diagnostic method according to claim 24, wherein said connection fault is a short-circuit formed by a wire between said sensors and actuators.

Claim 26 (New): A diagnostic method according to claim 24, wherein said connection fault is a cut electrical wire between said sensors and actuators.

Claim 27 (New): A diagnostic method according to claim 24, wherein said connection fault is a faulty connector wire between said sensors and actuators.

Claim 28 (New): A diagnostic method according to claim 12, wherein said particular values that permit propagation of said information relating to said functional faults of said sensors and actuators include a value associated with the absence of a connection fault between said sensors and actuators.